was by no means uncommon for the common morning-glory (*Convolvulus purpureus*, L.) to have three cotyledons. In Coniferæ the numerical variations were well known.

Amongst the peach cotyledons was one in which the radicle, with numerous branching fibres, had pushed several inches beneath the integuments, and coiled themselves about the cotyledons. The interest here was, that this had evidently taken place, before the seed had quite finished its growth in the fall, as there were grooves all along the surface of the cotyledons which indicated that they had rather grown around the fibres, than that the latter had forced their way through after the cotyledonous growth had been completed.

Mr. Meehan further exhibited two stalks of a *Lilium candidum*, the common white lily, grown in a greenhouse by Mr. W. C. Strong, of Brighton, Mass., which, instead of the usual flowers, had each terminated in two large scaly bulbs, one inch, and one and a half inches in diameter, precisely similar to those produced under ground. In the ordinary growth of this lily, the spring leaves, which started from the scales, were broadly ovate, not long and narrow as the stem leaves were, and in these terminal stem-bulbs the broad leaves terminated the scales in the same way, giving the flower-stems a peculiar coronetted appearance. He explained a difference in the bulblets we often find in some lilies, and true bulbs, in this, that bulblets form in the axils of the leaves; and while the scales of the true bulb were simply dilated and succulent leaf-stalks. They had no axillary buds visible. These axillary buds were, however, really formed, but were absorbed by the leaf structure, as he had shown in past times was the case in *Cassia marilandica*, when accounting for the gland on the petiole of that plant In the case of the lily, however, the bud, though absorbed, did not wholly lose the power of development, for though, if suffered to remain on the parent stem. scales, absorbed buds and all, usually died away, yet if these scales were removed so that the matter stored in them was not absorbed by the growing flower-stem, the latent bud in the scale would develop itself into a bulblet, which the next year would become a bulb of the ordinary character. It was in this way that the lily was now so extensively propagated by commercial florists.

May 23.

The President, Dr. Ruschenberger, in the chair.

Twenty-eight members present.

The following papers were presented for publication:—

"On the fishes of the Ambyiacu River." By Edw. D. Cope.

"Descriptions of new species of fossils from Ohio and other western States and Territories." By F. B. Meek.

"Contributions to Orthopterology." By Prof. C. Thomas.

Prof. Leidy directed attention to some remains of *Palæosyops*, recently received from Dr. Joseph K. Corson, U. S. A., who discovered them at Grizzly Buttes, near Fort Bridger, Wyoming Territory. They were more complete than those from which this curious tapiroid animal was first characterized, and mainly consist of portions of several lower jaws.

The specimens exhibit teeth, and fragments and traces of others indicating, at least, a series of six molars, which approached so closely the position of a large canine tooth, as to indicate that little or no hiatus existed between the former and the latter. The back portion of the lower jaw is broad and deep as in the Tapirs, and a deep concavity occupies a position externally in advance and below that of the condyle. The body of the jaw is thick and strong, with a thick convex base. The bottom of the symphysis appears hardly to have reached the position of the anterior premolar.

The lower true molars are like those of the *Palæotherium*, *Anchitherium*, &c. The outer portion of the corresponding upper molars likewise resembles that in the genera just named, but the inner portion is different. The antero-internal lobe is a low cone with a base expanding so as to occupy two-thirds the inner portion of the crown. The postero-internal lobe is trilateral. The last upper premolar has the crown composed of an outer pair of conical lobes, and a single larger inner cone. The last lower premolar is like the succeeding true molars. The lower penultimate premolar has the anterior lobe of its crown proportionately more, and the posterior lobe less, developed than in the succeeding teeth. The series of the lower true molars measures $3\frac{3}{4}$ inches; the depth of the jaw below the interval of the second and last true molars is $2\frac{3}{4}$ inches. The last lower molar measures 19 lines fore and aft. The second upper true molar is $16\frac{1}{2}$ lines transversely and fore and aft. The last upper molar is about 19 lines fore and aft at its outer part.

Mr. Thomas Meehan said he had recently observed that a clasping motion when touched existed in the stigma of *Torenia asiatica*, similar to that well known in the leaf of *Dionæa muscipula*. In this the stigma was cloven into two flat valves, which were usually expanded and somewhat revolute; when it was touched on its inner surface, the valves slowly closed together. The motion could scarcely be perceived, on account of the smallness of the parts; but it occupied in a total closing only about thirty seconds.

He also exhibited a branch of *Cissus amazonica* in which the tendril, usually situated on the stem opposite to a leaf, was in one instance on the other side, under the leaf, as if the leaf were axillary to the tendril. He remarked that the best botanists did not seem united in their opinions as to the correct morphology of the tendril in vitaceous plants. He had supposed the basis of structure in this

order was that of opposite leaves, only that on one side of the node, instead of the opposite leaf and axillary bud, the whole had been developed into a tendril, thus giving the appearance of an alternate-leaved structure. This appeared the more probable as the Phyllotaxis was in the half arrangement so common in opposite-leaved plants. But the appearance of the tendril, as in this case, could scarcely be deemed possible under this view, and it might be that the tendril really belonged to the leaf system opposite, as we saw it in *Cucurbitaceæ*, *Passifloraceæ*, &c., only that it had become twisted around on the opposite side. We saw this tendency in Cucurbitaceæ. Instead of being exactly over the leaf axil as in Passifloraceæ, it was twisted so as to extend one-third the way round the axis in Cucurbitaceæ, and it might, therefore, get half-way round in the grape-vine and other vitaceous plants. But he simply made this as a suggestion. He thought that at any rate the appearances of the tendril in this instance might be of service to those who were studying the morphology of tendrils in this tribe of plants.

The death of Mr. Stephen Morris was announced.

May 30.

The President, Dr. Ruschenberger, in the chair.

Twenty-two members present.

The report of the Biological and Microscopical Section for January, February, March, and April was received.

The following gentlemen were elected members: Wm. Campbell Gatzmer, and Samuel P. Wetherill.

On favorable report of the committees, the following papers were ordered to be published:—